

BOTANICAL GAZETTE

OCTOBER, 1894.

Filices Mexicanæ. V.¹

An enumeration of the ferns collected in Mexico by C. G. Pringle of Charlotte, Vermont, during the seasons 1891-1892 and 1893.

GEORGE E. DAVENPORT.

ACROSTICHUM.²

A. conforme Swz. 5,195.

On cliffs, Sierra de las Cruces, Oct. 2, 1892.

A. latifolium Swz. 5,530.

Wet cañons, Colima Mts., 7,000^{ft} alt., March 23, 1893.
Specimens agree very well with Chas. Wright's 996, 969, and 3,958 from Cuba in 1859-1865.

A. recognitum Kze.

Sierra de las Cruces, Aug. 25, 1892.

A. venustum Fée, Mem. 8: 68. 5,196.

Moist banks, Sierra de las Cruces, July 10, 1892.

ADIANTUM.

A. trapæsiforme L. 3,960.

Coffee plantation, hacienda of Tamasopo, Dec. 1, 1891.
A grand species with magnificent decomposed fronds, the segments from one to one and a half or more inches long, and, in Mr. Pringle's specimens, "decurved obliquely" as in Hooker and Baker's var. β . (*A. pentadactylon* L. & F.).

ANEIMIA.

A. hirsuta Swz. 3,850, including var. *tenella* H. & B. (*A. tenella* Swz.) A more delicately cut form, the pinnæ deeply pinnatifid.

¹For numbers I to IV see *Garden and Forest* 4: 448, 483, 519, 555.

²The alphabetical order has been adopted for these notes merely for the convenience of an ultimate re-arrangement.

Cool grassy bluffs of barranca near Guadalajara, Sept. 15, 1891.

ASPIDIUM.

A. aculeatum Swz. 5,532.

A slender nearly smooth form from the cañons of the Colima Mts. May 20, 1893.

A. (Polystichum) melanostictum Kze. 3,825.

Shaded slopes of barranca of Las Canoas, Aug. 22, 1891.

The large cinnamon colored involucre with black centers and ciliated margins appear to fix Mr. Pringle's plant here with reasonable certainty.

A. (Nephrodium) setosum Kl. (*N. tetragonum* Hook.) 3,957, α and β , the two forms so different as to appear like entirely different species, yet not clearly separable by any good characters.

Form α , which is simply pinnate with deeply pinnatifid pinnæ six or more inches long and one inch broad, almost exactly matches Fendler's 194 from Venezuela, 1854-55; form β is nearly tripinnate in the lower half of the frond and broadly deltoid with unequal-sided pinnæ like *A. spinulosum*, var. *dilatatum*, but the upper part gradually and exactly reproduces form α , all other characters being the same in both forms. I am not sure of this determination, but I have found it impossible to place it elsewhere, although I have had it under frequent examination during the past three years.

Banks of a cascade, hacienda of Tamasopo, Dec. 2, 1891.

ASPLENIUM.

A. cicutarium Swz., var. **paleaceum**, n. var. 5,531.

Rachises chaffy, otherwise as in type.

Moist banks, cañons of Colima Mts., May 23, 1893.

A. hastatum Klt. 3,920.

In rich forests, Las Canoas, Oct. 17, 1891.

A. pumilum Swz., var. **laciniatum**, n. var. 5,534.

The divisions deeply cut into linear strap-shaped lobes. Mossy ledges, barranca of Tepii, Oct. 11, 1893. There is a similar form in the Cambridge Herbarium from Kew (566 from Jamaica) with which this agrees perfectly.

A. rhizophyllum Kze., var. **proliferum**, n. var. 5,533.

Moist banks, cañons of Colima Mts., May 23, 1893.

The exceedingly narrow divisions, and the dareoid appearance of the sori on the upper part of Mr. Pringle's plant led me to look for it in the *Darea* section of this genus, but Prof. Eaton considers it a mere form of *A. rhizophyllum*, and a more careful examination convinces me that he is right. There are specimens of this species and 5,531 in the Cambridge Herbarium with proliferous fronds, a seemingly not uncommon character in this genus.

***A. rubinum*, n. sp. 5,191.**

Rootstocks tufted, clothed at the crown, and the young croziers covered with blackish-brown fibrillose scales and chaff; fronds clustered, 6 to 15 inches tall, $\frac{3}{8}$ to $\frac{3}{4}$ of an inch broad, pinnate; stipites 2 to 6 inches long, moderately stout, and, as well as the rachises bright ruby colored, smooth and glossy; pinnæ 20 to 30 or more pairs, sessile, or in the larger specimens sub-sessile, variously shaped, mostly unequal-sided, wedge-shaped at base, or sub-dimidiata, the lower side cut away one-half to two-thirds in a curved line with the upper base line parallel with the rachis, lowermost pairs distant, rhomboidal or sub-reniform, margins entire or slightly crenate; surfaces bright green, texture coriaceous, veins obscure, sori large, 1 to 5 pair to a pinna, brown when mature.

Cold cliffs, Sierra de las Cruces, Sept. 11, 1892.

No description can make the distinctive character of this fine ruby-stalked *Asplenium* perfectly clear, but once seen it is not likely to be mistaken for any other known species.

In general appearance and habit it resembles a robust form of *A. Trichomanes*, but the stout red stalks, which extend nearly to the apex of the frond before greening, and the enormous sori render its identification comparatively easy. The back of a mature pinna is a solid mass of brown sporangia, nearly obscuring the persistent indusia and presenting the appearance of an *Acrostichum*.

A. Shepherdi Spreng. 3,958, α and β .

Tamasopo cañon, June, 1891.

BOTRYCHIUM.

B. matricariæfolium R. Br. 5,193.

Wet cañons, volcano of Toluca, Sept., 1892.

B. ternatum Swz. 5,192.

Alpine meadows, Sierra de las Cruces, 10,000ⁿ alt., Sept., 1892.

CHEILANTHES.

C. speciosissima A. Br. 4,202 α and β . (*Plecosorus Mexicana* Fée.)

α , with somewhat rigid fronds densely clothed with rich brown scales; β with fronds lax and only sparingly scaly from growing in shady grottos.

Cliffs, Sierra de las Cruces, 11,000^{ft} alt., Sept. 11, 1892.

DICKSONIA.

D. rubiginosa Klf. 3,824.

Rich moist slopes in shade, barranca of Las Canoas, Aug. 18, 1891.

Five to 8^{ft} high, fronds deltoid, 3 to 5^{ft}, stipes 2 to 3^{ft}.

GYMNOGRAMME.

G. Calomelanos Klf., var. *Peruviana* Baker. 4,377. (*G. Peruviana* Desv.)

Calcareous banks and cliffs, barranca near Colima, state of Jalisco, June 4, 1893.

G. Ehrenbergiana Klt., var. **muralis** Pringle (*in litt.*). 4,420.

A cliff-growing dwarf form with chaffy rachises, but without scales. On faces of cliffs near Tequila, July 6, 1893.

G. trifoliata Desv. 4,000.

Barranca of Las Canoas, state of San Luis Potosi, Aug. 15, 1891, growing among willow and cypress bushes.

Specimens bifoliate, and without powder. Judging from the series of specimens at Cambridge, the species is oftener bifoliate than otherwise, and the powder is not always present.

NOTHOLÆNA. This is Robert Brown's original orthography as used by him when he established the genus in 1814, and I do not wish to be quoted as favoring any other. The later orthography of Kaulfuss (1824) in my notes in *Garden and Forest*, *l. c.*, was not used with my approval, and I do not concede the right of an editor to interfere with an author's manuscript unless it be to correct errors of spelling or grammar. It is not a question of scholarship that we have to consider here, but one of priority and right, and no advocate of the "revised nomenclature" can consistently set aside Brown's original orthography for that of Kaulfuss without doing violence to the very code which he professes to serve.

N. Grayi Davenport. 5,373.

Ledges, barranca of Tequila, Oct. 4, 1893.

Mr. Pringle wrote that "if, as I think, I send you *Noth. Grayi*, it must be from an extreme southerly station, much farther south than before recorded. It was 50 miles west from Guadalajara, where *N. Schaffneri* rather than this species is common."

OPHIOGLOSSUM.

O. crotalophoroides Walt. 4,244.

Moist meadows, Nevado of Toluca, 11,000th alt., Sept. 6, 1892.

O. reticulatum L. 3,816 and 3,995.

3,816 in moist, grassy places under shrubs, Las Canoas, state of San Luis Potosi, Aug. 15, 1891. 3,995 in wet soil near Guadalajara, state of Jalisco, Oct. 5, 1891. Some of the latter specimens seem doubtfully distinct from *O. vulgatum*; but the two species appear to run very closely together, if not into one another, and I doubt very much if they are specifically distinct.

OSMUNDA.

O. regalis L. No number, and should have been in my previous notes.

By streams near Guadalajara, Dec. 13, 1888.

POLYPODIUM.

P. angustifolium Swz., var. *ensifolium* Baker. (*P. ensifolium* Willd.) Specimen numbered 3,803, ticket 3,821.

On trees, barranca of Las Canoas, Aug. 1891.

P. heteromorphum H. & Gr. (*P. variabile* Mett.) 4,145.

A slender and remarkably beautiful Polypodium, with long narrow perennial fronds that increase in length annually, each season's growth being distinctly seen, so that a single frond may have upon it passé, matured and maturing lengths with the apex preparing for the next season's extension. Found "hanging from fissures in sheltered niches and grottos of cold cliffs," summit of Sierra de Las Cruces, 11,000th altitude, Sept. 11, 1892.

P. lepidopteris Kze. 5,359.

On trees, hills of Patzcuaro, July 16, 1891.

P. Martensii Mett. 5,360.

With 5,359. Aug. 3, 1892.

P. pectinatum L. 3,974. A form apparently identical with *P. Paradisæ* L. & F.

Rich woods, hacienda de Tamasopo, Dec. 11, 1891.

***P. petiolatum*, n. sp. 4,001.**

Rootstock stout, half an inch or more in diameter, wide-creeping, and thickly clothed with large fulvous (brown) scales: fronds scattered, 2^{ft} or more tall, 15 to 18ⁱⁿ broad, pinnate; stipites stout, 6 to 8ⁱⁿ long, and (as well as the long stipiform rachises) straw colored, smooth and glossy; lamina divided into from sixteen to twenty pair of long acuminate inear-lanceolate pinnæ 6 to 9ⁱⁿ long, three-eighths to one-half an inch broad, stalked nearly to the top, uppermost sub-sessile, the long terminal one with a pair of small sessile pinnæ below; texture sub-coriaceous, smooth; venation that of *Goniophlebium*, areolæ uniserial, veins conspicuous, sori prominent, thirty to forty each side of the prominent costa.

On mossy oak, Las Canoas, Aug. 19, 1891.

Mr. Pringle wrote me that this fern "was found on the branches of oaks on the mountain sides about the station of Las Canoas in the eastern part of the state of San Luis Potosi. This must have been near the limit of its distribution—certainly on the western limit and near the dry region where ferns cannot grow on trees—for I searched somewhat widely and found only the two specimens." A very distinct and fine *Polypodium*.

P. Phyllitidis L. 5,187.

On trees, Tamasopo, Dec. 1, 1891.

P. pilosissimum Mart. & Gal. 4,288.

Mossy rocks, Sierra de las Cruces, 11,000^{ft}, Sept. 11, 1892.

P. Plumula. 3,999.

On ledges, Tamasopo, Dec. 1, 1891.

P. vulgare L. 5,190.

Sierra de las Cruces, 11,000^{ft}, Sept. 11, 1892.

TRICHOMANES.

T. pyxidiferum L. 3,800.

Mossy rocks, Tamasopo Mts., July, 1891.

I have referred Mr. Pringle's specimens to this species merely because I do not find any authentic record of *T. filicula* from this continent.

In the note under *T. filicula* in Synopsis Filicum, Dr. Hooker stated that "he could not distinguish from that species a Mexican plant from Liebmann though labelled *pyxidi-ferum* on high authority," and I am myself unable to discover any important difference between Mr. Pringle's specimens and some specimens of *T. filicula* which I have from Leprieur's Herbarium (Paris Museum) given to me by Dr. Gray. It is doubtful if the two species are in reality distinct.

T. radicans Swz. 5,535.

Wet cliffs, cañons of Colima Mts., May 23, 1893.

Specimens somewhat larger and coarser than our southern form, but otherwise characteristic.

WOODSIA.

W. mollis J. Smith. 1,865.

Moist banks and ledges near Guadalajara, Nov. 1888.

Should have been included in my previous notes, as should also my acknowledgments to Prof. L. M. Underwood for valuable assistance in verifying some determinations at a time when I was greatly troubled with my eyes, and it would seem to me that I was taking to myself credit for what was not justly my due if I continued my notes without putting myself on record in this manner.

In addition to the foregoing ferns several other species previously recorded were again collected, mostly in, or near the same localities as before, so that it does not appear necessary to record them again here.

ERRATA.

Prof. Underwood has called my attention to Mr. Pringle's 1,441 sent out with the collection of 1887 as *Notholæna candida* (see Fern Notes in *Bulletin Torrey Bot. Club*), which he finds to be *Cheilanthes farinosa* Klf. I fully agree with him and thank him for the correction.

He also writes that his specimens of 449 and 1,959 (see also *Bull. Torr. Bot. Club*) are *Cheilanthes Alabamensis* rather than *C. microphylla*, the species to which I had referred those numbers. My own specimens were somewhat intermediate in character, but with, as I still think, a stronger leaning to-

ward *microphylla* than *Alabamensis*. They are as good *microphylla* as many specimens so named by good authority. It does not, however, matter very much from my point of view, as I consider the two so-called species mere forms of one. That they do run into each other through almost inseparable gradations there can be little question, and Prof. Underwood himself appears to doubt their being distinct.

It is certainly impossible at times to separate specimens satisfactorily, and their variations have not only been made the basis for several untenable species but the two extreme forms have even been put into separate genera.

Dr. Hooker, however, in *Species Filicum* expressed the opinion that we might "conceive of *C. microphylla* having reached its extreme northern limits in the *C. Alabamensis* of the southern states." I coincide with this view and believe that we should write:

Cheilanthes microphylla Swz.

β. var. *Alabamensis* (Buckley). (*C. Alabamensis* Kze.)

Medford, Mass.